

REMARKS

Claims 1-37 and 42-44 are pending in this application. By this Amendment, claims 1, 27, 29, 36, 37 and 42 are amended and claims 43 and 44 are added. Applicant filed an Information Disclosure Statement on September 15, 2003. The Examiner is respectfully requested to contact the undersigned if the Examiner is unable to locate that Information Disclosure Statement.

An Election of Species was required in this application. Accordingly, Applicant elected Fig. 1 and claims 1-2, 7-19, 21-37 and 42 have been examined. Applicant also submits that at least claims 1, 11, 12, 22-24 and 37 are generic to all species. Applicant also retains claims 3-6 and 20 as these claims remain generic to claim 1. Applicant thus requests rejoinder of claims 3-6 and 20 if claim 1 is found to be allowable because claims 3-6 and 20 depend from claim 1 and would thus be allowable for the same reasons that claim 1 is allowable. Applicant also adds claims 43 and 44 and asserts that claims 43 and 44 are supported by Fig. 1.

The specification was objected to for failing to provide proper antecedent basis for the features recited in Applicant's claims 27-29, 31 and 33. By this Amendment, claims 27 and 29 have been amended to remove "distribution." Applicant asserts that support for a ratio control portion can be found at least in paragraphs [0214] - [0216], and in particular, the last seven lines of paragraph [0216] of Applicant's specification, for example. It is respectfully requested that the objection be withdrawn.

Claim 42 was rejected under 35 U.S.C. §112, second paragraph. By this Amendment, claim 42 has been amended responsive to the rejection. It is respectfully requested that the rejection be withdrawn.

Claims 1, 2, 7, 8, 13, 14, 16, 18, 19, 22 and 24 were rejected under 35 U.S.C. §102(b) over DE 197 16 404 (DE '404). The rejection is respectfully traversed.

DE '404 fails to disclose a braking system with a valve device having a first state in which the pressurized fluid is delivered from two pressurizing chambers of the at least two pressurizing chambers to the brake cylinder, and a second state in which the pressurized fluid is delivered from only one of the two pressurizing chambers to the brake cylinder, as recited in claim 1.

DE '404 discloses a braking system with a master cylinder having two pressurizing chambers 4, 6, partially defined by respective pistons 4a, 6a (Fig. 1). The master cylinder also includes a brake cylinder 3 in communication with the chamber 4, a pump 10 that is connected to both the brake cylinder 3 and the chamber 6 with the pump 10 operating during an operation of the brake operating member 2 and a valve device 12 that is connected in parallel with the pump 10. When the brake operating member 2 is operating, the valve device 12 is initially placed at a first position 12.1 that allows pressurized fluid to be delivered to the brake cylinder 3 from two chambers 4a, 6a. In this regard, DE '404 discloses Applicant's valve device having a first state.

When the fluid pressure generated in the chamber 6 has exceeded a predetermined threshold value, the valve device 12 is placed at a second position 12.2. The fluid is thus pressurized by the pump 10 and delivered to the brake cylinder 3. Accordingly, Applicant would first like to clarify the remarks presented in their April 30, 2003 Amendment in that pressurized fluid is delivered from the chamber 6 to the brake cylinder 3 via the pump 10 when the valve 12 is in the second state 12.2 (Figs. 1 and 6). Pressurized fluid is also delivered from the chamber 4 to the brake cylinder when the valve device 12 is in the second state 12.2 as noted on page 6 of the Office Action.

As such, DE '404 fails to disclose Applicant's second state in which pressurized fluid is delivered from only one of the two pressurizing chambers to the brake cylinder. DE '404 fails to disclose this feature because pressurized fluid is delivered from both of the chambers

4, 6 when the valve device 12 is placed in both the first state 12.1 and the second state 12.2.

DE '404 thus fails to disclose Applicant's second state as recited in claim 1.

In addition, claims 2, 7, 8, 13, 16, 18, 19, 22 and 24 recite additional features of the invention and are also believed to be allowable at least for the reasons discussed above with respect to claim 1 and for the additional features recited therein. It is respectfully requested that the rejection be withdrawn.

Claim 37 was rejected under 35 U.S.C. §102(e) over Oka et al. (Oka), U.S. Patent No. 6,196,641. The rejection is respectfully traversed.

Oka fails to disclose a braking system with a simulator control valve electrically operable to control an operating state of the stroke simulator such that an amount of a flow of a working fluid from the pressurizing chamber into the stroke simulator is restricted by the simulator control valve, the simulator control valve having an open state permitting the flow of the working fluid into the stroke simulator, and a closed state inhibiting the flow of the working fluid into the stroke simulator and a stroke control device operable to electrically control the simulator control valve on the basis of an operating state of the brake operating member as recited in claim 37.

Oka discloses a fluid pressure boosting device with a variable stroke unit 77, a stroke simulator, an orifice 82 and a check valve 83 (col. 28, lines 28-32 and Fig. 11). The orifice 82 of the variable stroke unit 77 controls an operating stroke of the brake pedal according to an operating speed of the brake pedal such that an increase in the operating speed causes an increase in pressure in the power chamber 25 (col. 30, lines 34-56). The pressure is applied to the brake cylinders 28, 29 through the passage 26, port 27, switching valve 94 and pressure transducer 93 of the alternative brake operating unit (col. 30, lines 37-49). The pedal stroke can be changed by the orifice 82 corresponding to the pedaling speed of the brake pedal (col. 31, lines 5-10). When the brake pedal is pedaled at a high speed, the pressure boosting device

1 can develop a large output with a small stroke of the input shaft 18 by the variable stroke unit 77.

However, as shown in Fig. 11, Oka's orifice 82 is not electrically controllable. In other words, Oka fails to disclose Applicant's electrically operable simulator control valve having an open state for permitting a fluid flow into the stroke simulator 81 and a closed state for inhibiting the fluid flow. According to Oka's variable stroke unit 77, the orifice effect provided by the orifice 82 is fixed and not variable because the orifice 82 is only mechanically operated. Conversely, Applicant's simulator control valve is electrically controllable by the stroke control device so that the simulator control valve can be controlled in a desired fashion on the basis of the specific operating state of the brake operating member so the relationship between the operating speed and stroke of the brake operating member can be changed as needed.

As such, Oka fails to disclose all of the features recited in Applicant's claim 37. It is respectfully requested that the rejection be withdrawn.

Claim 36 was rejected under 35 U.S.C. §103(a) over Oka in view of Sakai et al. (Sakai), U.S. Patent No. 6,007,164. The rejection is respectfully traversed.

Oka and Sakai fail to disclose a braking system with a manual pressure-generating system including a manually operable brake operating member and a master cylinder including a pressurizing piston which is operatively connected to the manually operable brake operating member and which defines a pressurizing chamber and a rear pressure chamber on respective front and rear sides thereof and a master-cylinder cut-off valve disposed between the assisting chamber and the pressurizing chamber, and having an open state in which the assisting chamber and the pressurizing chamber are communicated with each other, and a closed state in which the assisting chamber and the pressurizing chamber are isolated from each other as recited in claim 36.

Fig. 11 of Oka discloses boosting device 1 and a master cylinder 2 (col. 27, lines 16-18). The master cylinder 2 includes a primary piston 47' that defines a fluid chamber 72 and a secondary piston 47" that defines a fluid chamber 49. As stated on pages 4 and 5 of the Office Action, the Examiner asserts that the reaction chamber 41 is a rear pressure chamber as recited in Applicant's claim 36. However, Applicant respectfully traverses this assertion. Applicant asserts that the reaction chamber 41 is a chamber that is defined by a reaction piston 20 of the boosting device 1. The chamber 41 formed within the boosting device 1 cannot be considered to be a rear pressure chamber as defined by the pressurizing piston of the master cylinder as recited in Applicant's claim 36. Oka teaches a combination of an ordinary master cylinder 2 and a unique booster 1, the servo of which is variable by introducing the pressurized fluid from the power chamber 25 into the reaction chamber 41.

In Oka's Fig. 11, the chambers 49 and 72 formed on respective opposite sides of the piston 47" may be considered to be equivalent to Applicant's pressurizing chamber and rear pressure chamber as recited in claim 36. However, as shown in Oka's Fig. 11, a master-cylinder cut-off valve is not provided between the chamber 49 and brake cylinder 51, 52. As such, Oka fails to disclose Applicant's master cylinder and master-cylinder cut-off valve as recited in claim 36.

Sakai fails to overcome the deficiencies of Oka. Although Sakai discloses a master-cylinder cut-off valve 36 disposed between the pressurizing chamber 22, 24 of the master cylinder 14 and the brake cylinder 82, 88, Sakai also fails to disclose a master cylinder having a rear pressure chamber, as recited in Applicant's claim 36.

Even assuming that Oka's fluid chamber 72 and reaction chamber 41 were respectively considered to be a pressurizing chamber and a rear pressure chamber of the master cylinder, which Applicant traverses, Oka also fails to disclose a master-cylinder cut-off valve, as further recited in claim 36.

Oka's switching valve 94 of the alternate brake operating unit 89 does not function as a master-cylinder cut-off valve, as recited in claim 36. That is, the power chamber 25 is supplied with the pressurized fluid delivered from the pump 38 and the accumulator 41 (col. 19, lines 33-53). The servo ratio of the boosting device 1 is also increased by introducing the pressurizing fluid from the power chamber 25 into the reaction chamber 41 through passage 26, port 27, switching valves 74, 75, port 45 and passages 42-44.

However, the valve 94 is not normally placed in the open state for connecting the pressuring chamber 72 and the brake cylinder 28, 29. The valve 94 is only switched to the open state when the pump 37 or accumulator 40 fails (col. 29, lines 1-18 and col. 31, line 63 to col. 32, line 17). Thus, Oka's valve 94 cannot be a master-cylinder cut-off valve which is held open when the braking characteristic control device is normally operable, as recited in claim 36.

Applicant further asserts that the combination of Oka and Sakai also fail to disclose Applicant's assisting chamber and diagnosing device as recited in claim 36. As admitted in the Office Action, Oka fails to disclose Applicant's diagnosing device. Sakai also fails to overcome this deficiency.

Sakai fails to disclose that the diagnosis of a manual-pressure-generating system (12, 14, 30 and 32) connected to an assisting cylinder is implemented while a master-cylinder cut-off valve disposed between the master cylinder 14 and the assisting cylinder is in the closed state. Applicant's invention is advantageous in that the diagnosis of a manual-pressure-generating-system will not be affected by the assisting cylinder and the braking characteristic control device because Applicant's diagnosis by the diagnosing device is implemented while the master-cylinder cut-off valve is in the closed state. Accordingly, the accuracy of the diagnosis is improved. Sakai fails to disclose this feature because Sakai fails to disclose Applicant's assisting cylinder.

As such, the combination of Oka and Sakai fails to disclose all of the features recited in Applicant's claim 36. It is respectfully requested that the rejection be withdrawn.

Applicant appreciates the allowance of claims 25-35 and the indication of allowability for claims 9-12, 15, 17, 21, 23 and 42. However, for the reasons discussed below, Applicant asserts that all of claims 1-37 and 42-44 are allowable.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-37 and 42-44 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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